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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MORILLO, JANELLE COMBS

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/642,507	Applicant(s) BENEDICTUS ET AL.	
	Examiner Janelle Combs-Morillo	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-31 and 38-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-31 and 38-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/25/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. Applicant argues (response p 9-13), that support is found for the instant claims in the English language priority application EP 0278443.5 filed August 20, 2002. This has been found partially persuasive, however items a), b), and c) are not clearly/explicitly supported by the priority document: a) T39 temper, b) substantially Ag free alloy, c) grain aspect ratio. A 1.132 declaration is needed, detailing why a), b), and c) were supported by the priority document.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 4, 6-8, 11-31, 38-43 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2004/0060618 (US'618).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

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102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

US'618 teaches (see cl. 1-2) an aluminum alloy (in weight%): 4.5-5.5% Cu, 0.5-1.6% Mg, $\leq 0.80\%$ Mn, 0.15% max. Fe, 0.15% max. Si, 0.18% max. Zr, 0.18% max Cr, which overlaps the presently claimed ranges of Cu, Mg, Mn, Fe, Si, Zr, and Cr (instant claims 1, 5-8, 11-20, 31, 38-40, 42). US'618 mentions said alloy is substantially free of Ag (see US'618 at claim 1). US'618 at claim 21 teaches said alloy is in a T39 or T351 temper, substantially as claimed in instant claims 1, 26, 41-43.

Concerning claims 3-4 and 21-23, said alloy is $\geq 80\%$ recrystallized (see US'618 at cl 23), and a typical aspect ratio of 1:4 or less (US'618 at cl. 24).

Concerning claims 24-26, US'618 teaches an identical fatigue crack growth rate in cl. 26-27, as well as substantially the same working and heat treating steps performed on the instant Al-Cu alloy (see US'618 at cl. 36).

Concerning claims 27-30, US'618 teaches said alloy product preferably has a thickness of 2.0mm-50mm (see US'618 at cl. 28-29), and is used for various aircraft applications, such as lower wing member or fuselage panels (see US'618 at cl. 30-31).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 4, 6-31, 38-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heymes et al (US 6,077,363) in view of JP 07-252574 (JP'574).

Heymes teaches a Al-Cu alloy comprising (in weight%): 3.5-5.0% Cu, 1.0-2.0% Mg, <0.25% Si, <0.25% Fe, <0.55% Mn, others <0.25% (abstract), which overlaps the presently claimed alloying ranges of Cu, Mg, Si, Fe, and Mn (claims 1, 6-14, 31, 39, 40, 42). Heymes teaches processing said alloy to a T351 temper (column 7 line 66). Heymes does not teach the addition of Zr and/or Cr to said alloy.

However, JP'574 teaches the addition of 0.05-0.3% Zr and/or 0.05-0.3% Cr to substantially similar Al-Cu alloys increases toughness (see [0011]-[0013] of translation). It would have been obvious to one of ordinary skill in the art to have added Zr and/or Cr to the Al-Cu-Mg alloy taught by Heymes because JP'574 teaches said addition increases toughness.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Concerning claims 3 and 4, Heymes teaches the recrystallization at the surface, quarter, and mid thickness in Table 1 of alloy A2 (see trials 4-6). While the mid thickness exhibits a (low) recrystallization of 71%, at least 50% of said alloy product has a recrystallization of $\geq 95\%$. Therefore, the minimum recrystallization taught by Heymes $50\%*71+50\%*95=83\%$, which meets the instant limitation.

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Concerning claim 15 and 38, as stated above, the combination of Heymes and JP'574 teaches the addition of 0.05-0.3% Zr.

Concerning claim 16-18, as stated above, the combination of Heymes and JP'574 teaches the addition Cr and/or Zr within the presently claimed range (see [0011]-[0013] of translation, see also Table 1).

Concerning claim 19, Heymes does not teach the addition of Ag, and therefore is held to be substantially Ag free.

Concerning claim 20, Heymes teaches example A2 has 0.10% Zn and 0.02% Ti, which meets the instant limitation.

Concerning property claims 21-25, Heymes does not mention the fatigue crack growth rate or aspect ratio. However, Heymes teaches said alloy exhibits excellent fatigue resistance (column 2 line 56). Additionally, Heymes teaches a substantially similar method of processing said alloy including steps of reheating, hot rolling, aging, quenching, stretching, and age hardening (column 6 lines 10-14). The examiner asserts that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Because Heymes teaches substantially similar processing steps performed on an alloy that falls within the instant alloying

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ranges, it is held that the same properties (aspect ratio, fatigue crack growth rate) would expected to be present.

Concerning claim 26, Heymes teaches a substantially similar method of processing said alloy including steps of reheating, hot rolling, aging, quenching, stretching, and age hardening to a T351 temper (column 6 lines 10-15, column 7 line 66).

Concerning claims 27-28, Heymes teaches said alloy can be made into heavy >20mm (column 4 lines 66-67) thick or average 3-12mm thick sheet (column 1 lines 5-6).

Concerning claim 29, Heymes teaches said alloy can be processed into a sheet for aircraft fuselages (column 2 line 47).

Concerning instant claim 30, it would have been obvious to one of ordinary skill in the art to use said alloy as an aircraft wing member, substantially as presently claimed, because Heymes teaches said Al-Cu alloy has excellent strength and toughness properties and can be used in aircraft construction (column 1 lines 15-16).

Concerning claim 31, as stated above, the example taught by Heymes falls within the instant ranges.

Concerning claim 41, 43, Heymes teaches processing said alloy to a T351 temper (column 7 line 66).

Provisional Double Patenting

7. Claims 1, 3, 4, 6-8, 11-31, 38-43 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-36 of copending Application No. 10/639,776 (pub. No. US 2004/0060618, hereinafter US'618).

Although the conflicting claims are not identical, they are not patentably distinct from each other

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because cl. 1-2 of US'618 teach an aluminum alloy (in weight%): 4.5-5.5% Cu, 0.5-1.6% Mg, $\leq 0.80\%$ Mn, 0.15% max. Fe, 0.15% max. Si, 0.18% max. Zr, 0.18% max Cr, which overlaps the presently claimed ranges of Cu, Mg, Mn, Fe, Si, Zr, and Cr (instant claims 1, 6-8, 11-20, 31, 38-40, 42). Cl. 1 of US'618 mentions said alloy is substantially free of Ag (see US'618 at claim 1). US'618 at claim 21 teaches said alloy is in a T39 or T351 temper, substantially as claimed in instant claims 1, 26, 41-43.

Concerning instant claims 3-4 and 21-23, the alloy taught by the claims of US'618 is typically: provided in the T39 condition (see US'618 at cl. 21), $\geq 80\%$ recrystallized (see US'618 at cl 23), and exhibits a typical aspect ratio of 1:4 or less (US'618 at cl. 24).

Concerning instant claims 24-26, the claims of US'618 teaches an identical fatigue crack growth rate in cl. 26-27, as well as substantially the same working and heat treating steps performed on the instant Al-Cu alloy (see US'618 at cl. 36).

Concerning instant claims 27-30, the claims of US'618 teach said alloy product preferably has a thickness of 2.0mm-50mm (see US'618 at cl. 28-29), and is used for various aircraft applications, such as lower wing member or fuselage panels (see US'618 at cl. 30-31).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 1, 3, 4, 6-8, 11-31, 38-43 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 10/642518 (pub. No. US 2004/0112480, hereinafter US'480). Although the conflicting claims are not identical, they are not patentably distinct from each other because cl. 1-2 of US'480 teach an aluminum alloy (in weight%): 3.6-4.9% Cu, 1.0-1.8% Mg,

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<0.30% Mn, 0.10% max. Fe, 0.1-0.4% max. Si, 0.15% max. Zr, 0.15% max Cr, which overlaps the presently claimed ranges of Cu, Mg, Mn, Fe, Si, Zr, and Cr (instant claims 1, 6-8, 11-20, 31, 38-40, 42). Cl. 1 of US'480 does not mention said alloy contains Ag. The alloy taught by the claims of US'480 is typically provided in the T39 condition (see US'480 at cl. 21).

Concerning claims 3-4 and 21-23, the claims of US'480 do not teach the degree of recrystallization or aspect ratio. However, because the Al-Cu alloy product taught by the claims of US'480 substantially overlaps the presently claimed ranges, as well as the process taught by cl. 17 and 18 of US'480, then substantially the same microstructure is expected to occur.

Concerning instant claims 24-26, the claims of US'480 teaches an identical fatigue crack growth rate in cl. 14-15, as well as substantially the same working and heat treating steps performed on the instant Al-Cu alloy (see US'480 at cl. 23).

Concerning instant claims 27-30, the claims of US'480 teach said alloy product preferably has a thickness of 2.0mm-50mm (see US'480 at cl. 19-20), and is used for various aircraft applications, such as lower wing member or fuselage panels (see US'480 at cl. 21-22).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Amendment/Arguments

9. In the response filed on May 25, 2004 applicant amended various claims, canceled claims 2, 5, 32-37, added new claims 38-43, and submitted various argument traversing the rejections of record. The examiner agrees that no new matter has been added.

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10. The 102(e) rejection over US 2004/0060618 (US'618) has not been overcome, see "Priority" section above.

11. By the incorporation of claim 2 as well as the amended Mn range into claim 1, the examiner agrees applicant has overcome the 102/103 rejection in view of JP'636, the 103 rejection in view of Rioja, and the 103 rejection in view of Warner.

12. In response to applicant's argument that the Fe and Si ranges taught by JP'574 teach away from the instant invention, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). JP'574 is relied on by the examiner to teach that Zr and Cr are added to substantially similar Al-Cu alloys to increase toughness (as opposed to the Fe and Si ranges).

13. Applicant's argument that the instant specification has shown unexpected improvement in fatigue crack growth rate has not been found persuasive because Applicant has not provided a clear nexus between the unexpected results and the prior art of record (see MPEP 2144.08). Applicant should establish a nexus between the rebuttal evidence and the claimed invention, i.e., objective evidence of nonobviousness must be attributable to the claimed invention. More specifically, applicant compares the instant invention to AA2024, however, it is not clear that 2024 is closest prior art. Evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP

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§716.02(b), (d), (e). Applicants may compare the claimed invention with prior art that is more closely related to the invention than the prior art relied upon by the examiner, MPEP §716.02(e). In re Holladay, 584 F.2d 384, 199 USPQ 516 (CCPA 1978); Ex parte Humber, 217 USPQ 265 (Bd. App. 1961). Applicant has not provided evidence or arguments that 2024 is closer prior art than the prior art of record.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JCM 
July 29, 2005